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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,676	11/18/2003	Kenichi Nakagawa	034053-001	2329
21839	7590	11/01/2005	EXAMINER	
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			SCHECHTER, ANDREW M	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/714,676

Applicant(s)

NAKAGAWA, KENICHI

Examiner

Andrew Schechter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3,6-8,11 and 13 is/are rejected.
7) ☒ Claim(s) 4,5,9,10,12 and 14 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 23 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-8, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yamagishi et al.*, U.S. Patent No. 5,157,523 in view of *Weber*, U.S. Patent No. 6,590,707.

Yamagishi discloses [see Figs. 1-3, for instance] a system for compensating retardation caused by birefringence of incident light to liquid crystal devices, each of the liquid crystal devices [1] is provided in the optical axis of a repective one of plural primary color lights with different wavelengths [red, green, blue], the system comprising: retardation compensators [3a, 3b], formed from inorganic materials [quartz, for instance, col. 11, line 16-23], adjacent to at least one of the incidence surface side and the emanation side of the liquid crystal devices, and the retardation compensator for the primary color light with the shortest wavelength [blue] having a different retardation value from the retardation compensators for other primary color [col. 6, lines 7-37].

Yamagishi does not explicitly disclose that the retardation compensator for the primary color light with the shortest wavelength has a different physical dimension than the other compensators. *Weber* discloses [see Fig. 2, for instance] retardation

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compensators in which the retardation values depend on a physical dimension [the fractional length taken up by one layer 16 compared to the other layer 18, see Fig. 3 and discussion thereof]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use *Weber's* retardation compensators in the device of *Yamagishi*, motivated by *Weber's* teaching that such retardation compensators can be formed using conventional vacuum techniques and conventional inorganic materials, with advantages in manufacturing and use [col. 2, lines 4-7, col. 13, lines 12-14, etc.]. Since the retardations of the compensators in *Yamagishi* are different, and this difference is accomplished by having a different physical dimension when using the compensators of *Weber*, the retardation compensator for the primary color light with the shortest wavelength will have a different physical dimension from the retardation compensators for the other primary colors. Claim 1 is therefore unpatentable.

This device is a liquid crystal projector for focusing the primary color lights on a screen [64] to display an image, so claim 6 is also unpatentable.

Weber's films are composed of at least two kinds of thin film layers with different refractive indices [col. 7, lines 1-5], and the optical thickness of each thin film layer in the recited range [col. 6, lines 46-48], so claims 2 and 7 are also unpatentable.

Similarly, it would also have been obvious to one of ordinary skill in the art at the time of the invention to use retardation compensators with this same common combination of inorganic materials (TiO_2 and MgF_2) for each of the retardation compensators in *Yamagishi*, so claims 3, 8, 11, and 13 are also unpatentable.

Allowable Subject Matter

3. Claims 4, 5, 9, 10, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the device of claims 4 and 9, in particular the limitation that the number of layered thin films of the retardation compensator for the primary color light with the shortest wavelength is smaller than that of the retardation compensators for the other primary color light. Claims 4 and 9 would therefore be allowable if rewritten appropriately.

The prior art does not disclose the device of claims 5 and 10, in particular the limitation that the length of the birefringent member for the shortest wavelength primary color light in the optical axis is smaller than that for other primary color light. [*Weber* discloses a plurality of birefringent members as recited, see Fig. 7, but not the recited relative lengths of the members in the different color light.] Claims 5 and 10 would therefore be allowable if rewritten appropriately.

The prior art does not disclose the device of claims 12 and 13, in particular the limitation that the physical dimension is the thickness of the compensators in the direction of the optical axis of the respective liquid crystal devices. *Weber* discloses, instead, that the fraction of component layers 16 and 18 which make up the compensators is responsible for the different retardations, so there is no teaching that

the overall thickness of the compensators should be the physical dimension which is varied between the different compensators. Claims 12 and 14 would therefore be allowable if rewritten appropriately.

Conclusion

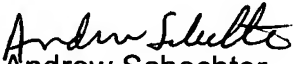
5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Andrew Schechter
Primary Examiner
Technology Center 2800
29 October 2005